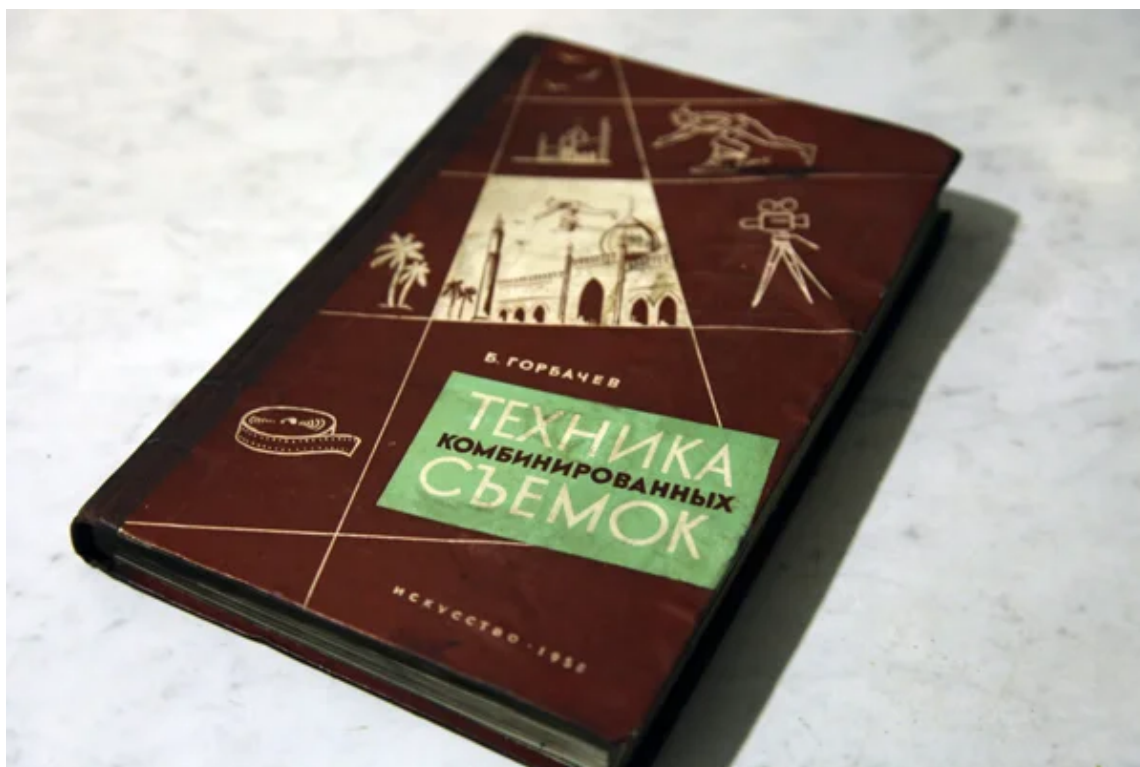


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### 3. «Армстронг запрыгнул обратно на нижнюю ступеньку лестницы.» Как это снято?

13-16 minutes

When I was reviewing the footage of the "live broadcast from the Moon", I remembered one chapter from B. Gorbachev's book "Technique of Combined Shooting" (Moscow, Art, 1958).



#### Combined Filming Tutorial

This book was a textbook for us when, as a student, I studied at the camera department of VGIK. And the chapter, which by the way came to mind, was called "Shooting with a camera, set in an unusual way." Let me quote one paragraph after which you will understand what kind of cinematic technique was used in order to show the ease of Armstrong's descent to the lunar surface.

- *"Let's imagine that it is necessary to shoot a frame in which an actor climbs the eaves of a multi-storey building. So he grabbed a dilapidated drainpipe, moves along a narrow cornice, skillfully balancing between the window openings. If you shoot such a shot on location or in an ordinary scenery, then there will be many difficulties and not every actor will be capable of such dizzying actions. If you build not a vertical decoration, but tilt it at an angle of 45 ° to the floor and shoot with a movie camera located so that the optical axis of the lens is perpendicular to the wall of the decoration, then an actor crawling along an inclined decoration on the screen will look like crawling along a vertical wall, but there is no risk of falling will be."*

It looks something like the reflection in an inclined mirror on [installations by Leandro Ehrlich in London](#) :



Or like in the movie "Inception":

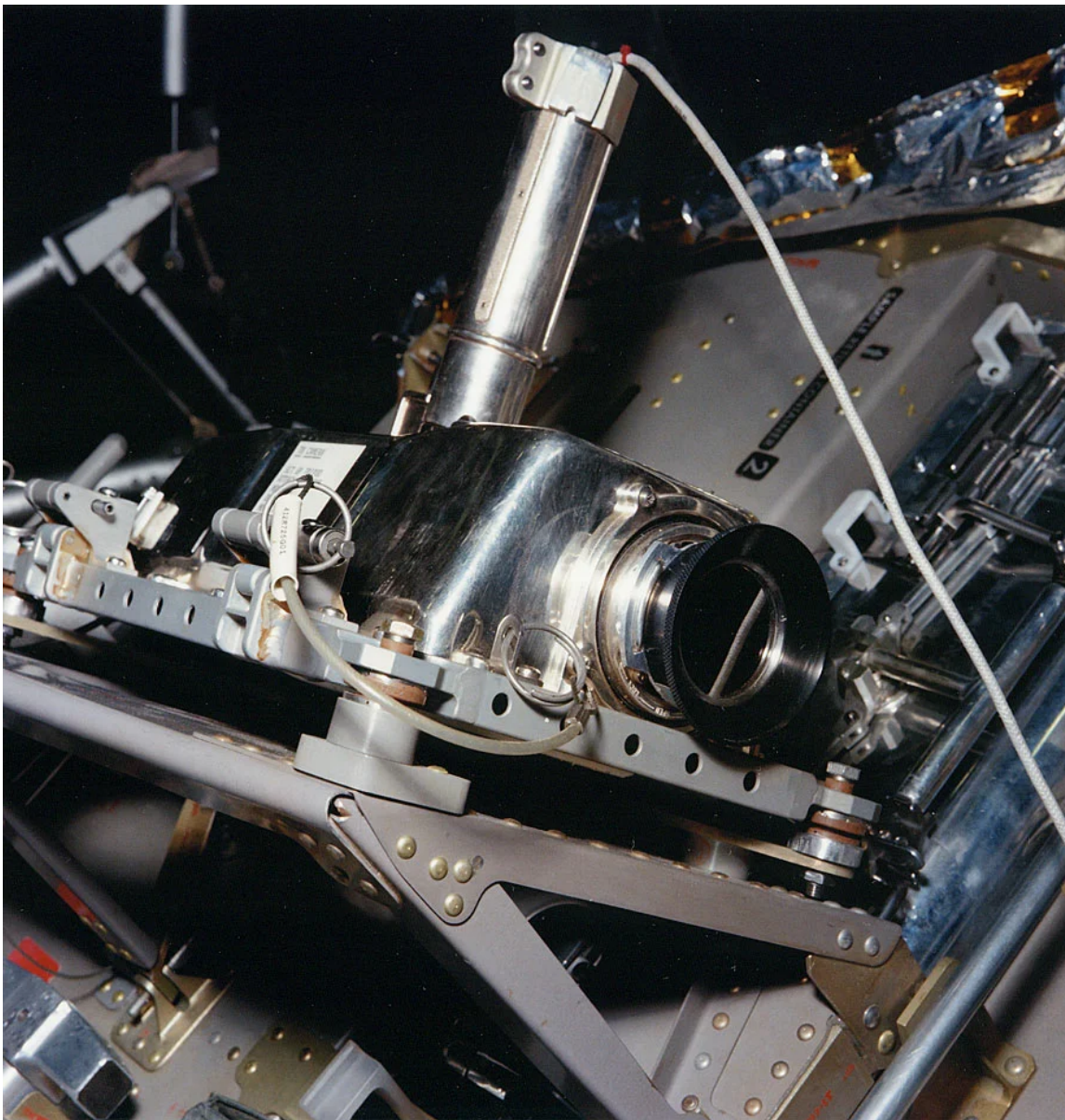


The movie "The Beginning" by Christopher Nolan, 2010 Working time of filming and still from the film.

Here the filming camera (it is in the upper right corner) is mounted on an inclined (relative to the horizon) beam. When watching a movie, the inclined plane will be positioned horizontally, which makes the positions of the actors perceived unnaturally inclined, creating a dream effect. The camera (from the point of view of the operator) was turned counterclockwise (the left edge is lower, the right edge is higher), which made the actors on the screen rotate clockwise relative to the vertical.

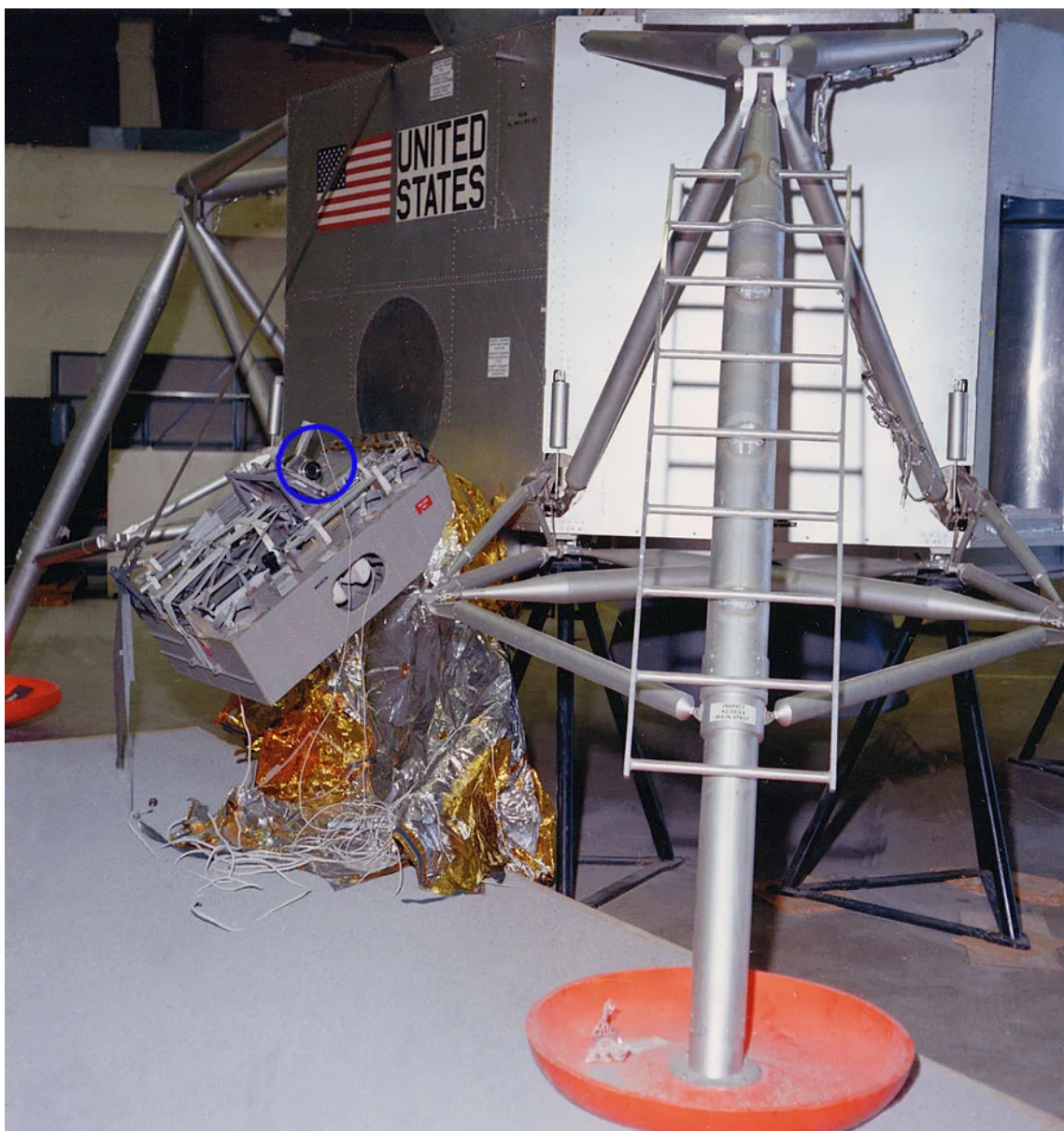
So, Armstrong's descent along the lunar module ladder, **according to NASA legend**, was also filmed with an inclined TV camera: the left edge of the platform on which the TV camera was mounted was also lower, and the right edge was higher (from the operator's point of view).





The camera is located on an inclined platform with a deviation from the horizon.





The location of the camera (circled in blue).

Due to this tilt of the TV camera, **according to NASA**, the entire frame was skewed, and the horizon line turned several degrees clockwise. As you will see below, in the frames of "live broadcast from the Moon" the horizon is obstructed, skewed by  $12^\circ$ .

In fact, there was no technical difficulty in fixing the TV camera on the lunar module strictly horizontally. But when the camera was mounted horizontally, the effect of weak lunar gravity was not obtained.

The fact is that the ladder for descent and the supports of the lunar module were located at an angle of approximately  $30^\circ$  to the vertical.



The angle between the support of the lunar module and the vertical is  $30^\circ$ .

The ladder was welded to one of the supports. Consequently, the actor had to go down an inclined plane. In addition, according to the NASA legend, the lunar module did not sit down vertically, but deviated back by  $4.5^\circ$  relative to the exit and the support with the ladder. Consequently, the ladder for the descent turned out to be deflected from the vertical by a total of  $35^\circ$ .

Now imagine yourself in the place of an astronaut. You need to go down and up an incline, and you are wearing a heavy spacesuit, approximately equal to your weight. It's like your friend sat on your back (on the back). On the moon, without a doubt, everything weighs 6 times less, but the mass has remained the same, and it has great inertia. To understand all these sensations (lightness and inertia), imagine that you came to a water park, into a pool with a depth of one and a half meters, plunged up to your shoulders (you now weigh very little, slightly press on the bottom of the pool), and you are your friend sat down on the backpack. It is  $2/3$  submerged in water, it also weighs little in water, but you need to move with it. Have you presented? Is it easy to do this?

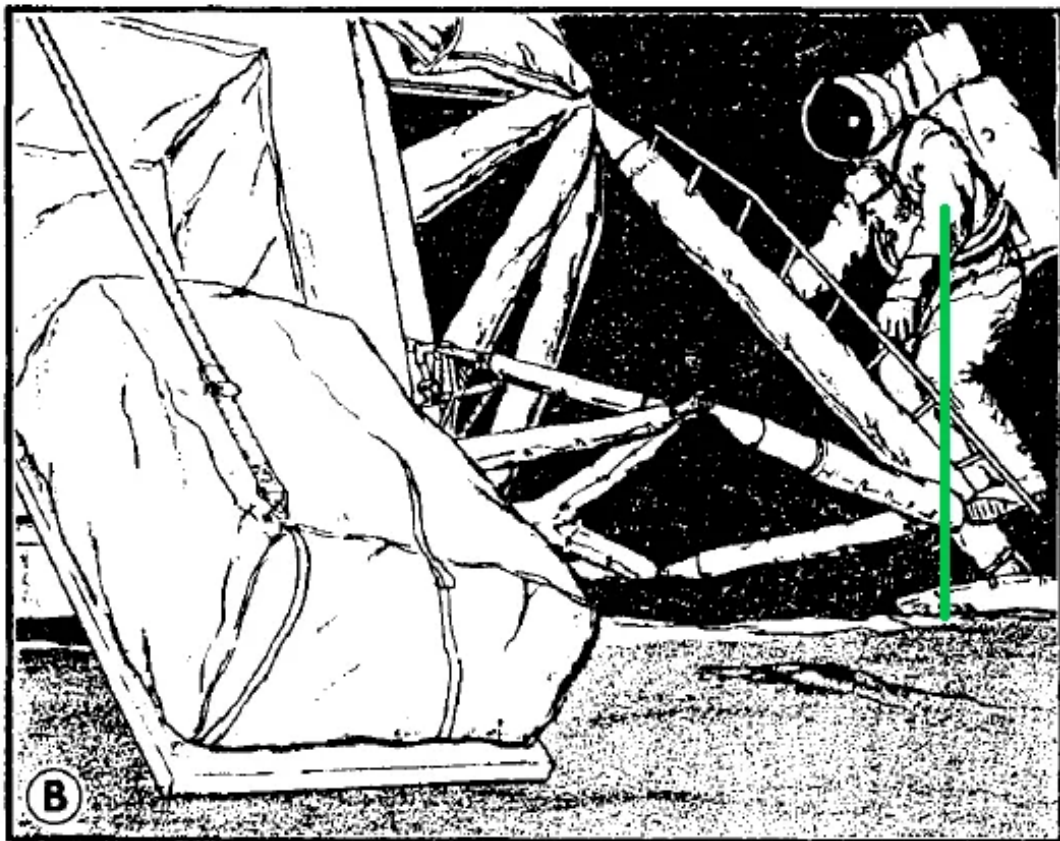
And so, with a load behind your back, you need to go down the inclined stairs. What will it look like? Approximately how the roofer moves on a sloped roof. You have to crawl on all fours. Tell me, how in this position to portray the lightness of lunar gravity, if your knees rest against the stairs?





Roofer

In the beginning, NASA artists portrayed the descent of an astronaut in this way - with knees resting on a ladder and legs bent at right angles. For example, see the figure from the Apollo operations handbook. Lunar module. - this is a guide to the developer of the lunar module, the company [Grumman](#). Grumman is one of the leading US military and civil aircraft manufacturers.



**MESA DEPLOYED**

This is how NASA employees imagined the descent of the astronaut down the stairs. The green line is the projection of the center of gravity.

But in this position it is difficult to recreate the lunar gravity in the pavilion and it is impossible to jump - the center of gravity is outside the support area.

Although the actor's knapsack behind his back was fake (empty inside), he still pressed the astronaut to the stairs, which made the astronaut look like a crawling turtle on the first tests. At the same time, gravity was immediately given out. And then, to create ease of descent, a purely "cinematic" decision was made. The ladder was detached from the lunar module and placed vertically, and the actor was suspended from a cable. And in this case, the astronaut no longer pressed against the stairs, did not crawl on all fours, he "easily" descended vertically from top to bottom on straight legs. In addition, by pulling the rope upwards, it was possible to create the impression that an astronaut in a heavy spacesuit was easily jumping up and sliding **along the stairs**.

Here is how NASA dreamers describe Armstrong's descent to the lunar surface (I quote from Wikipedia):

- *Armstrong tugged on the ring and opened the landing stage's cargo hold to the left of the stairs (when looking at the lunar module), thereby turning on the TV camera. Descending onto the round plate of the lunar module support, Armstrong jumped back to the bottom rung of the stairs and informed Aldrin that it was possible to return back, but you needed to jump well.*

In the video, we see that, having descended onto the support plate, "Armstrong" jumps up (you already know from the previous article that the role of "Armstrong on the Moon" was played by an actor of very small stature), while his two legs dangle freely for a while. " air. "



The astronaut is pulled upwards on a rope. The horizon line is shown tilted to the right by 12 °.

Since the NASA propagandists in the comments began to write that this could not be - after all, it is clearly visible that the astronaut is dangling on the cable - and that supposedly the author himself "painted on" all this, I had to post another gif - a view of Armstrong dangling from a different angle (view through lunar module porthole):





The astronaut's "bumpiness" was filmed from two different angles.

You can watch the full video on U-Tuba, the specified fragment begins [from the 48th second](#) .

In this video (frame on the left), the deviation of the stairs from the vertical is only  $9^\circ$  . Now imagine how it would look like jumping up along the stairs, if the shooting is carried out without tilting the camera and on a real staircase, which is tilted from the vertical by  $35^\circ$  .

Believe it or not, in order to jump up, a person must first stand upright so that the projection of the center of gravity falls on the area of support of the legs, between the feet. From a position such as in the NASA drawing, when the back is parallel to the stairs, and the center of gravity is outside the leg area, it is impossible to jump up. First you need to straighten up, stand upright, then sit down slightly and push off.

Look at the three roofers on the roof. The roofers on the left, who are standing, form a large angle between the vertical line of the body and the plane of the roof, and the roofer on the right, whose body is parallel to the roof, is actually lying. The roofer on the left can jump, but the roofer on the right cannot.



Roofers on the roof.

Now let's take a look at the astronaut from the "lunar video". His body is almost parallel to the stairs. It is impossible to jump from such a position. To jump, the angle between the vertical of the body and the

ladder must be  $30\text{--}35^\circ$ . But since the astronaut jumps up **parallel to the** ladder, moreover, without any squatting or pushing off, from this we conclude that the ladder, like the astronaut, stands upright, and the astronaut is simply lifted on the rope.

NASA is constantly trying to trick the viewer. And he does this not only in video, but also in photographs, deliberately tilting the horizon line.

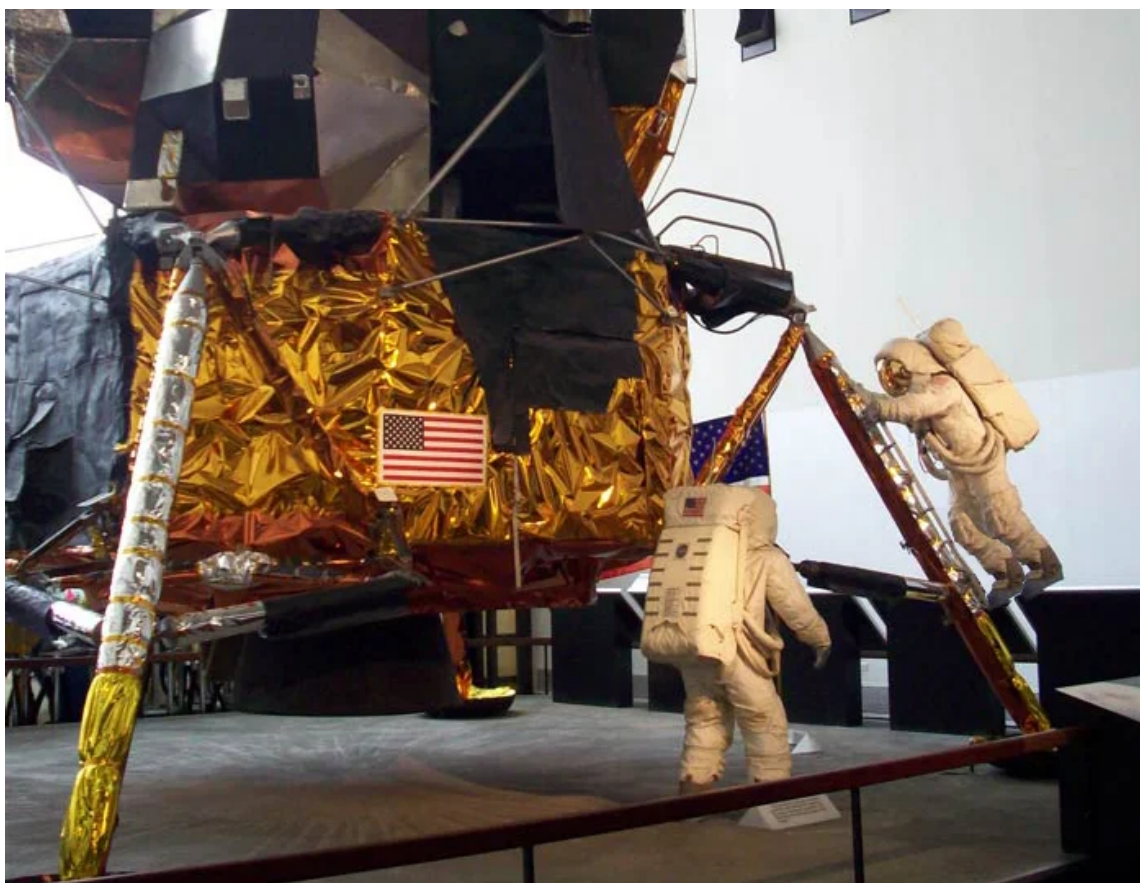
Here is a photograph of AS11-40-5869 from the Apollo 11 mission, which we rotated so that the horizon line becomes as it should be - horizontal.



Snapshot AS11-40-5869 is horizontally aligned.

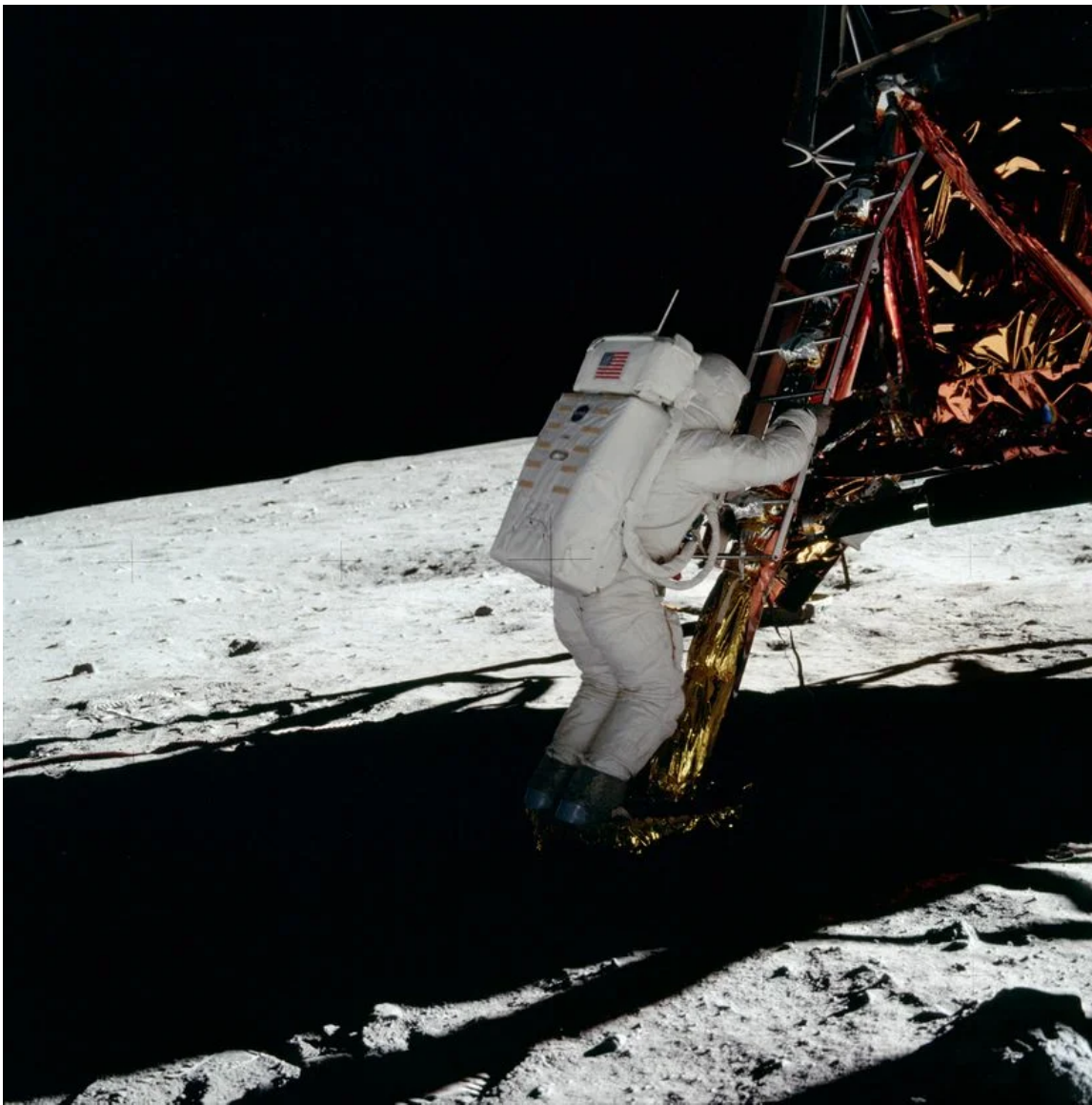
Now, when the astronaut stands on the plate of the lunar module support and holds the ladder with his hands (arms bent at the elbows) and the horizon line is aligned, you understand that the projection of the center of gravity passes by the legs, and jump from this position, and even more so, swing your feet in the air pulling up on your arms is simply impossible. It turns out to be some kind of absurdity - from the support plate, the astronaut jumps up diagonally, along the stairs, at an angle of  $55^\circ$  to the horizon, hangs above the inclined staircase, and at the same time two feet do not touch the steps.





Is it possible that two feet do not touch the steps?

And if we look at a photograph, as shown by NASA, we do not even notice these absurdities (we do not notice the tilt of the horizon line) and believe that it is possible to jump from such a position.



Original image from NASA AS11-40-5869. The horizon is intentionally tilted to make the astronaut appear upright.

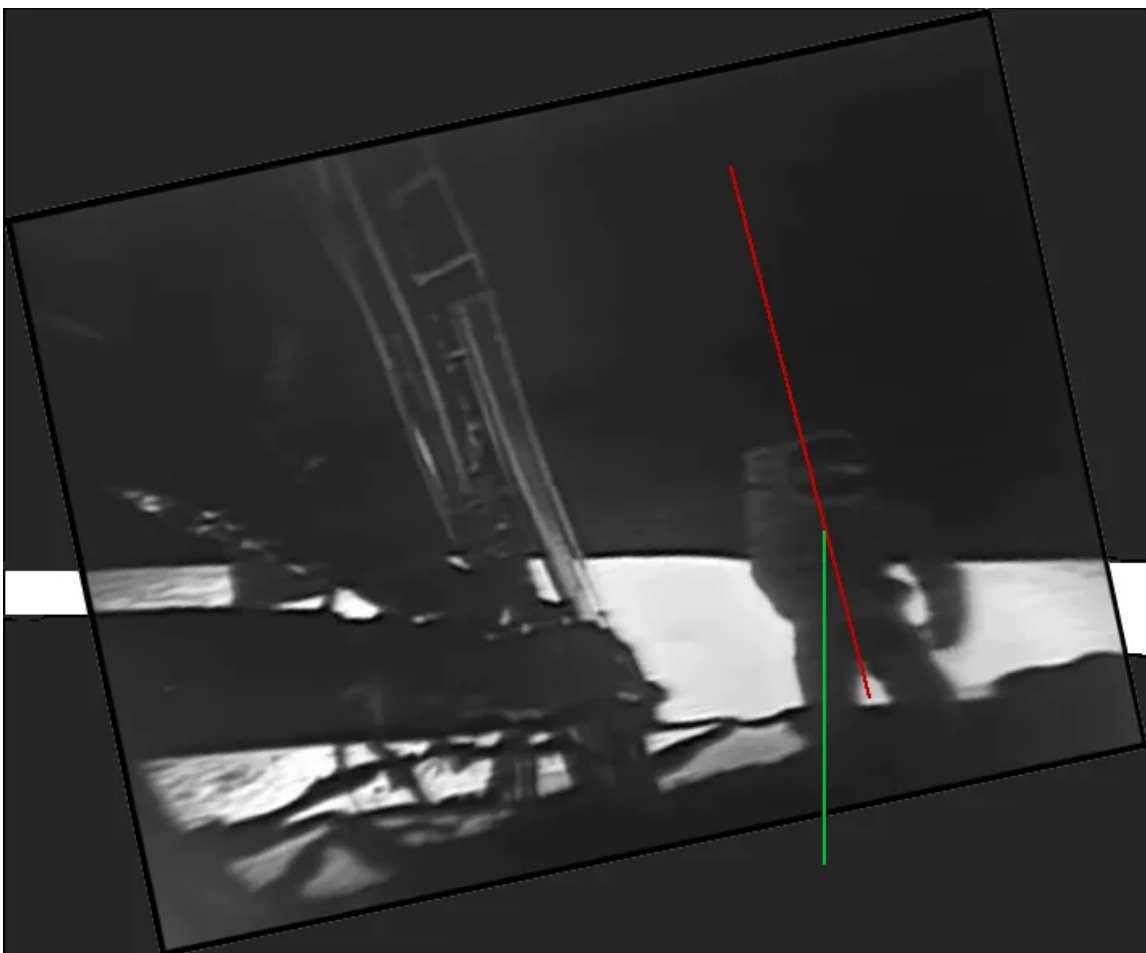
Further in the TV report of "live from the moon", we see the astronaut walking away from the stairs. His figure is vertical, although the horizon is tilted.





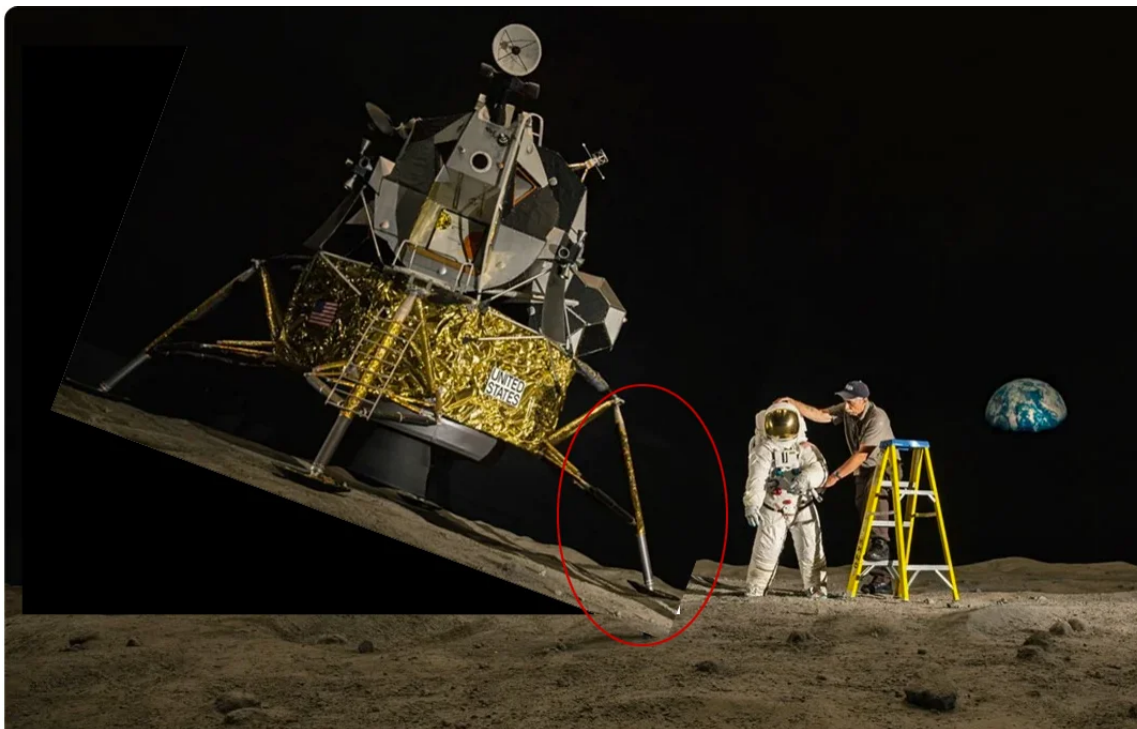
The astronaut stepped away from the ladder. Still from "live broadcast from the Moon".

If you align such a frame with the horizon, you get an absurdity: the astronaut walks at an angle to the vertical. But in this case, he must certainly fall, because the center of gravity goes beyond the line of support of the legs.



With a flat horizon line, the astronaut is walking at an angle to the vertical (red line), and the center of gravity extends beyond the line of leg supports (green line).

Since the astronaut walks and does not fall, it means that the actor is actually standing vertically in the frame, and the **camera is not tilted either to the left or to the right** during the shooting of this scene . Incorrectly tilted relative to the vertical ... the ladder. Of the last two versions of the black-and-white image, only the first one is true, with the caption "The astronaut has moved away from the ladder." It will not work to tilt the astronaut relative to the vertical - he will fall, but tilting the ladder is elementary. To get approximately the same angle of inclination of the standing astronaut and the ladder, and they are almost parallel in the television report (the deviation of the ladder from the vertical is only  $9^\circ$ ), the lunar module must be strongly tilted.



Only with such an inclination of the lunar module will it be possible to get a frame, as in a television report.

Of course, a multi-ton lunar module will not be able to withstand such an inclined position, especially since no steep hill can be seen under its supports. In fact, the lunar module was not tilted, just for filming "live coverage from the moon" from the lunar module they disconnected the support with the ladder and tilted only it. Why tilt the entire lunar module if you can't see it? In the frame, only a support with a ladder is visible, only these elements were tilted.

Accordingly, against the background, a few meters from the lunar module, they deliberately depicted not a horizontal, but an inclined horizon line, which allegedly arose because they were filming with an inclined camera. In the frame where there is the signature "The actor has moved away from the ladder", you can see how deliberately wrong the horizon line is drawn on the background.

**So, there was no historical descent of Armstrong along the ladder to the lunar surface. The entire episode was filmed in the pavilion with the use of props and dummy actors of small stature. The camera was not installed as NASA indicated - with an inclination relative to the horizon, but completely horizontal in level. But at the same time, the horizon line was falsified, passing a few meters from the lunar module, it was depicted as inclined. In order to create a feeling of ease of descent and ascent (as if in lunar gravity), the actor was suspended on a cable, and a ladder with a support was separated from the lunar module and placed in the frame almost vertically, instead of an inclination angle of  $35^\circ$ .**

\*

Camerman L. Konovalov was with you.





On the set of the series "Goat in Milk".

Until next time.